

Title 23. Waters
Division 2 Department of Water Resources
Chapter 7 Water Audits and Water Loss Control Reporting (New),

23 CCR § 700.0.
§ 700.0 Validated Water Loss Audits by Urban Water Suppliers.

(a) The Department is directed, under California Water Code (CWC) §10608.34, to adopt rules for:

- (1) the conduct of standardized water loss audits by urban retail water suppliers;
- (2) the process for validating a water loss audit;
- (3) the technical qualifications required of a person to engage in validating a water loss audit;
- (4) the additional requirements for a person selected by an urban retail water supplier to provide validation of its own Report; and
- (5) the method of submitting a Report to the Department.

(b) The Department is further directed, under California Water Code §10608.34, to update the rules described in subsection (a) as necessary, within six months after the release of a new edition of the American Water Works Association's Water Audits and Loss Control Programs, Manual M36.

Note: Authority cited: CWC Section 10608.34; Reference: CWC Section 10608.34(a).

23 CCR § 700.1

§ 700.1. Definitions.

As used in this Chapter, the following terms are defined as follows:

- (a) “Apparent losses” means losses in customer consumption attributed to inaccuracies associated with customer metering, systematic handling errors, or unauthorized consumption.
- (b) “AWWA” means the American Water Works Association.
- (c) “CA-NV AWWA” means the California-Nevada Section of the American Water Works Association.
- (d) “Data Validity Score (DVS)” means a measure of the overall trustworthiness of the data entered in the AWWA Free Water Audit Software (Audit Software). The DVS represents the validity of the water audit data and is a reflection of the level of best practices employed by the water utility.
- (e) “Department” means the Department of Water Resources.
- (f) “Infrastructure Leakage Index” means a performance indicator quantifying how well a distribution system is managed (maintained, repaired, rehabilitated) for the control of real losses at the current operating pressure.
- (g) “Level 1 validation” means a water audit validation process that includes a systematic evaluation of the accuracy of data inputs and the evaluation of the application of data scoring methodology used for the audit, as described in Section 700.3
- (h) “Non-revenue water” means the portion of the water consumption that is not billed and does not produce revenue.
- (i) “Real Losses” means the physical water losses from the pressurized system and the utility’s storage tanks, up to the point of customer consumption.
- (j) “Report” means the water loss audit report required to be submitted to the Department as specified in Section 700.5.
- (k) “Standardized water loss audits” means water loss audits conducted in accordance with the method adopted by the American Water Works Association, Water Audits and Loss Control Programs, Manual M36, Fourth Edition, and in the Free Water Audit Software, version 5.0.
- (l) “Urban retail water supplier” means a water supplier, either publicly or privately owned, that directly provides potable municipal water to more than

3,000 end users or that supplies more than 3,000 acre-feet of potable water annually at retail cost for municipal purposes.

(m) "Validating" means a process whereby an urban retail water supplier uses a Water Audit Validator to confirm the basis of data entries in the Reports and to characterize the quality of the reported data. All references herein to "validating" or "validation" refers to "Level 1 validation."

(n) "Water audit validation" refers to the process of examining water audit inputs to verify the water audit's accuracy and document the uncertainty associated with water audit data in order to communicate the uncertainty inherent in water audit.

(o) "Water Audit Validator" means a person who meets the requirements, of section 700.4, to perform the validation of a water loss audit.

Note: Authority cited: CWC Section 10608.34, Reference: CWC Sections 10608.34(a)(1)(A), 10608.34(a)(1)(B), 10608.34(a)(1)(C), 10608.34(b), 10608.34(d), and 10608.34(f).

23 CCR § 700.2.

§ 700.2. Audit Standards and Frequency.

Urban retail water suppliers shall on an annual basis, conduct water loss audits in accordance with Chapter 3 of the Manual of Water Supply Practices – M36, Water Audits and Loss Control Programs, 4th Edition, American Water Works Association, 6666 West Quincy Avenue, Denver, CO 80325-3098, 2016, and the Free Water Audit Software, version 5.0, American Water Works Association, 6666 West Quincy Avenue, Denver, CO 80325-3098 Copyright, 2014, both hereby incorporated by reference into these regulations.

Note: Authority cited: CWC Section 10608.34, Reference: CWC Sections 10608.34(a)(1)(A), 10608.34(b)

23 CCR § 700.3

§ 700.3. Standardized Conduct for Validation of Water Loss Audits.

- (a) All water loss audits shall receive a Level 1 validation.
- (b) A Level 1 validation shall include:
 - (1) An interview between the validator, the auditor and utility staff.
 - (2) A review and evaluation of the following documentation:
 - (A) The completed AWWA Free Water Audit Software specified in Section 700.2.
 - (B) The reported water volume from its own sources, as documented by the supply meter.
 - (C) The reported volume of water imported and exported each month.
 - (D) The documentation of the supply meter testing and calibration.
 - (E) The reported volume of water sold each month broken down by rate, if different rates are applied to water users.
 - (3) A review and evaluation of the accuracy of performance indicators included in the Free Audit Software.
 - (4) A review of audit inputs and data validity grades to confirm correct application of methodology, and followup reviews (if indicated).
 - (5) A summary of the validation, including:
 - (A) Name and contact information of the Water Audit Validator.
 - (B) Results of the initial performance indicator review.
 - (C) A Summary of Level 1 utility staff interview.
 - (D) Recommendations for changes to data validity grades and rationale therefore, if changes are recommended.
 - (E) Any recommended changes to water audit inputs and rationale.
 - (F) A summary of any followup performance indicator reviews.
 - (G) Overall impressions, including the consistency of performance indicators with system conditions and water loss management practices.
 - (H) Any recommendations for [further] validation or water audit improvements.

Note: Authority cited: CWC Section 10608.34, Water Code. Reference: CWC Section 10608.34(a)(1)(B).

23 CCR § 700.4

§ 700.4. Technical Qualifications for a Water Audit Validator.

(a) For purposes of Reports submitted prior to June 30, 2019 or until the date that the CA-NV AWWA establishes a water audit validator certificate program, a Water Audit Validator means:

(1) a contractor working in the CA-NV AWWA Water Loss Technical Assistance Program (“Water Loss TAP”) performing water loss audit training and conducting audit validations.

(2) a person who can demonstrate that their primary business practice is conducting water loss audits in accordance with the Manual of Water Supply Practices – M36, Water Audits and Loss Control Programs, 4th Edition, American Water Works Association, 2016, and the Free Water Audit Software, version 5.0, and has conducted a minimum of 30 Level 1 audit validations in accordance with the Water Research Foundation Standard 4639 (Water Audit Validation).

(b) For purposes of Reports submitted after July 1, 2019, a qualified water loss validator means an individual certified by the CA-NV AWWA as a Water Audit Validator.

(c) An urban retail water supplier may conduct a water loss audit validation for its own water loss audit provided the person performing the validation meets the requirements described in subsections (a), (b) and (d).

(d) A Water Audit Validator may not conduct a water loss audit validation if they participated in compiling the water loss audit.

Note: Authority cited: CWC Section 10608.34,. Reference: CWC Sections 10608.34(b) and Section 10608.34(a)(1)(C) of the Water Code.

23 CCR § 700.5

§ 700.5. Audit Reporting Requirements.

(a) Not later than October 1, 2017, and by October 1 of every year thereafter, urban retail water suppliers shall submit a Level 1 validated Report to the Department. The Report shall include data spanning 12 consecutive months for either the previous calendar year or the water supplier's fiscal year.

(b) Reports under subsection (a) shall be submitted in a fully operational spreadsheet format and shall contain:

(1) System-specific data entered into each field in the reporting worksheets of the AWWA Free Water Audit Software, with a data validity score.

(2) Beginning in 2018, information identifying steps taken by the water supplier in the preceding year to increase the validity of data entered into the final audit, reduce the volume of apparent losses, and reduce the volume of real losses.

(3) In the case of urban retail water suppliers with two or more separate public water systems, separate worksheets meeting the requirements in Section 700.5(b)(1) for each water system.

(4) The following Water Loss Audit Certification Statement, signed by the chief financial officer, the chief engineer or the general manager of an urban retail water supplier:

"This water loss audit report meets the requirements of California Code of Regulations Title 23, Division 2, Chapter 7 and the California Water Code Section 10608.34 and has been prepared in accordance with the method adopted by the American Water Works Association, as contained in their manual, *Water Audits and Loss Control Programs, Manual M36, Fourth Edition* and in the Free Water Audit Software version 5."

(c) Reports required under subsection (a) shall be submitted using the Department's online submittal tool for validated water loss audits.

(d) The Department shall make the online submittal tool available on its internet website prior to submission periods.

Note: Authority cited: CWC Section 10608.34, Reference: CWC Sections 10608.34(a)(1)(B), 10608.34(a)(1)(E), 10608.34(b), and 10608.34(e).

23 CCR § 700.6

§ 700.6. Validated Water Loss Audit Acceptance Criteria.

(a) The Department shall evaluate Reports submitted under Section 700.5. A Report shall be accepted if it contains the elements required under Section 700.5(b) and meets the following criteria:

(1) the Report was properly validated, including whether it was validated by an individual with the qualifications specified in Section 700.4 of this Chapter. Documentation of validation shall include the date of validation completion, the validation findings, and the certification and identification of the qualified water loss validator.

(2) the data and data grading scores in the audit sheet indicate that the system is operating in a manner that is congruent with known characteristics of water system operations. To evaluate congruency, the Department may consider the presence and significance of any of the following conditions:

(A.) The real losses are less than 0.0.

(B.) The cost of the non-revenue water is greater than 100% of operating costs.

(b) If the Department does not accept a Report as described in subsection (a), the Department shall return the Report to the urban retail water supplier. The urban retail water supplier shall resubmit a completed Report within 90 days of -a Report being returned.

Note: Authority cited: CWC Section 10608.34, Reference: CWC Section 10608.34(f).